access to the same toxic source, is presumed to be due to individual variations in eating habits.

Following prolific seasons such as the spring and summer of 1983-84, large quantities of straw contaminated by pyrrolizidine alkaloid containing plants may become available, particularly from the Riverina. As consumption of straw by deep litter-raised calves is to be expected from the first week of life (P.H., personal observations), it is recommended that where this system is used for raising calves, the straw should be examined for pyrrolizidine alkaloid containing plants before use.

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References
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Feline cerebral phaeohyphomycosis associated with Cladosporium bantianum

Graduate School of Tropical Veterinary Science, M. W. SHINWARI
James Cook University of North Queensland, Queensland 4811

Queensland Department of A. D. THOMAS
Primary Industries
Oonoonba Veterinary Laboratory, Queensland 4811

Aitkenvale Veterinary Surgery, J. S. ORR
Townsville, Queensland 4814

Cladosporiosis is a rare but usually fatal fungal infection of man and animals which is included among the phaeohyphomycoses. Both cutaneous and systemic forms of infection are associated with dark thick-walled septate mycelia. Infections generally occur in compromised or debilitated hosts (Chandler et al 1980).

Cladosporium bantianum (trichoides) is a neurotropic fungus which has been isolated from human brain (King and Collette 1952; Limshia et al 1970; Chriclow et al 1973; Bennett et al 1973) and lung (Limshia et al 1970). Documented cases in animals are rare (Chandler et al 1980). Jang et al (1977) reported 2 cases of brain abscess in cats from which C. bantianum was isolated.

Associated clinical signs in man and animals are those of central nervous disorder such as severe headache, diplopia, convulsions, weakness of the extremities, altered reflexes and weight loss (King and Collette 1952; Bennett et al 1973; Chriclow et al 1973; Jang et al 1977; Chandler et al 1980). The original isolation of C. bantianum from brain was by Binford et al (1952). In south Queensland, Wilson (1982) isolated C. bantianum from human brain and showed its neurotropism in experimetal animals.

An 18-month-old spayed female cat showed circling and incoordination. The pupils were dilated and pupillary reflex was absent. The cat died and was submitted for necropsy. Previously it had been presented to the same clinic with mild respiratory signs. Arthroplastic surgery had been carried out on the left hip followed by corticosteroid therapy at the age of 5 months.

A remarkable solid black lesion measuring 2 x 2.5 cm was present in the left occipital lobe of the cerebrum (Figure 1). No pus was detectable grossly. The lungs were congested and somewhat oedematous but other organs were apparently normal. Blocks of tissue were taken from the brain and other organs for histopathology. A fresh sample of the lesion was also obtained for microbiological examinations.

The brain lesion was characterised by massive hyphal invasion, inflammatory cells, reactive neuroglial cells, and liquefactive necrosis (Figure 2). The inflammatory cells were predominantly of large mononuclear type in nodular or diffusely arranged forms throughout the lesion. Numerous capillaries ramified throughout the mass. Lymphocytes, some plasma cells, histiocytes, multinucleated giant cells and early micro-abscessation with scattered neutrophils were components of the lesion. Numerous large reactive astrocytes were also present. Elsewhere the brain was congested and showed some neuronal degeneration and mild focal microgliosis. A few scattered inflammatory cells were seen in the congested cerebral meninges. Some fungal elements were seen in the choroid plexus.

The left retropharyngeal lymph node and the spleen showed lymphoid depletion. The lungs were extremely congested and showed oedema, emphysema, some catarhal bronchitis, prominent subpleural lymphatics, occasional mononuclear infiltration in the vicinity of small blood vessels, and at least one thrombosed bronchial blood vessel. The liver showed congestion, dilated portal lymphatics, brownish pigmented Kupffer cells, moderate degeneration of hepatocytes and an inflamed bile duct with associated fibrosis of the portal triad. Slight degenerative changes of some of the cardiac vascular walls were noticed.

In sections stained by haematoxylin and eosin, the fungus appeared as septate hyphae, sparsely branched, almost rectangular pattern, with thick dark brown to olive walls. Some budding yeast-like cells with occasional hyphal extension were also evident. Massive invasion of the hyphae was associated with the looser cellular reactions and necrotic areas. However, hyphae also occurred in the denser nodular type of reaction and occasionally in the lumina of blood vessels. In PAS sections the brownish colour of the fungal hyphae still dominated but some budding yeast-like cells and thinner hyphae appeared PAS-positive. In methenamine silver-stained sections the fungi were black and very prominent. The morphology of the fungal hyphae was well-defined in unstained sections where they appeared brownish in colour.

Figure 1: Gross appearance of the cladosporial lesion in the cerebrum with black discoloration.
Evaluation of the effect of tiamulin hydrogen fumarate fed at 25 ppm on performance responses of pigs infected with enzootic pneumonia

Animal Research Branch,* A.M. POINTON
South Australia Department of Agriculture, P.O. Box 1671,
Adelaide,
South Australia 5001

E. R. Squibb and Sons Pty, Ltd N. GERATTY
P.O. Box 38,
Noble Park,
Victoria 3174

Tiamulin hydrogen fumarate is currently being used for therapeutic programs for treatment of enzootic pneumonia at 200 ppm in Australia and internationally. The product is also marketed at feed levels between 20 to 30 ppm for maintenance of growth performance in pigs affected with enzootic pneumonia (Burch 1984). The purpose of this experiment was to verify the latter claim when fed at 25 ppm to pigs inoculated with Mycoplasma hyopneumoniae, and to investigate if improvement in performance is associated with reduced lung pathology.

Thirty two 5- to 6-week old piglets were purchased from a herd known to be infected with enzootic pneumonia. These had been divided into 4 matched groups before purchase on the basis of age, weight, sex and genetic background and during the experiment were held in adjacent pens of equal size. All piglets, including 2 additional enzootic pneumonia-free piglets were inoculated with a suspension of ground pneumonia tissue containing M. hyopneumoniae, Beaufort strain (Etheridge and Lloyd 1990).

Each group was fed ad lib on a commercial ration for 16 weeks and slaughtered at 22 weeks of age when the average bodyweight was 80 to 85 kg. Groups 1 and 2 were fed tiamulin in the ration, while groups 3 and 4 received unmedicated ration. Samples of the medicated ration were assayed and contained on average 25.1 ppm tiamulin. Pigs were weighed weekly and feed consumed per group each fortnight was recorded. The pigs were reared under environmental and

† Dynamicfilm® E. R. Squibb and Sons Pty Ltd, Noble Park,